

comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

REMARKS

Claims 1-22 were pending in the application. Claims 1, 2 and 12 have been amended. Specifically, claim 1(e) has been amended to delete the draft notation "CHECK NUMBER" which was inadvertently presented in the claim as filed. Claim 1(g) has been amended to correct a minor typographical error. Claims 2(b) and 12(b) have been amended to delete the term "Number" which was inadvertently recited in duplicate in the claims as filed. Accordingly, following entry of the Amendments presented herein, claims 1-22 will remain pending in the instant application.

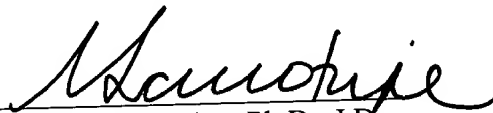
No new matter has been added. For the Examiner's convenience, a copy of the claims as they will be pending upon entry of the present amendment is attached hereto as Appendix A.

Also attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attached page is captioned "Version With Markings to Show Changes Made".

CONCLUSION

If a telephone conversation with Applicant's Attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 227-7400.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE***In the Claims:***

Claim 1 was amended as follows:

1. **(Amended)** An isolated nucleic acid molecule selected from the group consisting of:
 - a) a nucleic acid molecule comprising a nucleotide sequence which is at least about 60% identical to the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO: 10, SEQ ID NO:12, or the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____ a complement thereof;
 - b) a nucleic acid molecule comprising a fragment of at least 439 nucleotides of the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - c) a nucleic acid molecule comprising a fragment of at least 481 nucleotides of the nucleotide sequence of SEQ ID NO:4, SEQ ID NO:6, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - d) a nucleic acid molecule comprising a fragment of at least 2175 nucleotides of the nucleotide sequence of SEQ ID NO:7, SEQ ID NO:9, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - e) a nucleic acid molecule comprising a fragment of at least 439 ~~(CHECK NUMBER)~~ nucleotides of the nucleotide sequence of SEQ ID NO:10, SEQ ID NO:12, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - f) a nucleic acid molecule which encodes a polypeptide comprising an amino acid sequence of at least about 60% homologous to the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____;
 - g) a nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:5 or SEQ ID NO:8, or SEQ ID NO:11, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, SEQ ID NO:5,

SEQ ID NO:8, ~~SEQ ID NO:11~~, SEQ ID NO:11, or the polypeptide encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____; and

h) a nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the nucleic acid molecule hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12, or a complement thereof under stringent conditions.

2. **(Amended)** The isolated nucleic acid molecule of claim 1, which is selected from the group consisting of:

a) a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, or a complement thereof; and

b) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____.

12. **(Amended)** A method for producing a polypeptide selected from the group consisting of:

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____ or _____;

b) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, SEQ ID NO:5,

SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____ or _____; and

c) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO: 12, or a complement thereof under stringent conditions;

comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

APPENDIX A

1. **(Amended)** An isolated nucleic acid molecule selected from the group consisting of:
 - a) a nucleic acid molecule comprising a nucleotide sequence which is at least about 60% identical to the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO: 10, SEQ ID NO:12, or the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____ a complement thereof;
 - b) a nucleic acid molecule comprising a fragment of at least 439 nucleotides of the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - c) a nucleic acid molecule comprising a fragment of at least 481 nucleotides of the nucleotide sequence of SEQ ID NO:4, SEQ ID NO:6, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - d) a nucleic acid molecule comprising a fragment of at least 2175 nucleotides of the nucleotide sequence of SEQ ID NO:7, SEQ ID NO:9, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - e) a nucleic acid molecule comprising a fragment of at least 439 nucleotides of the nucleotide sequence of SEQ ID NO:10, SEQ ID NO:12, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, or a complement thereof;
 - f) a nucleic acid molecule which encodes a polypeptide comprising an amino acid sequence of at least about 60% homologous to the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____;
 - g) a nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:5 or SEQ ID NO:8, or SEQ ID NO:11, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or the polypeptide encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____ ; and
 - h) a nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8,

SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the nucleic acid molecule hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12, or a complement thereof under stringent conditions.

2. **(Amended)** The isolated nucleic acid molecule of claim 1, which is selected from the group consisting of:

a) a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12, the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, or a complement thereof; and

b) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____.

3. The nucleic acid molecule of claim 1 further comprising vector nucleic acid sequences.

4. The nucleic acid molecule of claim 1 further comprising nucleic acid sequences encoding a heterologous polypeptide.

5. A host cell which contains the nucleic acid molecule of claim 1.

6. The host cell of claim 5 which is a mammalian host cell.

7. A non-human mammalian host cell containing the nucleic acid molecule of claim 1.

8. An isolated polypeptide selected from the group consisting of:

a) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or the polypeptide encoded by the DNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or the amino acid sequence encoded by the DNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____;

b) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12 or a complement thereof under stringent conditions; and

c) a polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 60% identical to a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:12, or a complement thereof.

9. The isolated polypeptide of claim 8 comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____ or _____.

10. The polypeptide of claim 8 further comprising heterologous amino acid sequences.

11. An antibody which selectively binds to a polypeptide of claim 8.

12. **(Amended)** A method for producing a polypeptide selected from the group consisting of:

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____ or _____;

b) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____ or _____; and

c) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:8, SEQ ID NO:11, or an amino acid sequence encoded by the cDNA insert of the plasmid deposited with ATCC as Accession Number _____, _____ or _____, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO: 12, or a complement thereof under stringent conditions;

comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

13. A method for detecting the presence of a polypeptide of claim 8 in a sample, comprising:

- a) contacting the sample with a compound which selectively binds to a polypeptide of claim 8; and
- b) determining whether the compound binds to the polypeptide in the sample.

14. The method of claim 13, wherein the compound which binds to the polypeptide is an antibody.

15. A kit comprising a compound which selectively binds to a polypeptide of claim 8 and instructions for use.

16. A method for detecting the presence of a nucleic acid molecule of claim 1 in a sample, comprising the steps of:

- a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to the nucleic acid molecule; and
- b) determining whether the nucleic acid probe or primer binds to a nucleic acid molecule in the sample.

17. The method of claim 16, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

18. A kit comprising a compound which selectively hybridizes to a nucleic acid molecule of claim 1 and instructions for use.

19. A method for identifying a compound which binds to a polypeptide of claim 8 comprising:

- a) contacting a polypeptide, or a cell expressing a polypeptide of claim 8 with a test compound; and
- b) determining whether the polypeptide binds to the test compound.

20. The method of claim 19, wherein the binding of the test compound to the polypeptide is detected by a method selected from the group consisting of:

- a) detection of binding by direct detecting of test compound/polypeptide binding;
- b) detection of binding using a competition binding assay;
- c) detection of binding using an assay for LGR6-activity.

21. A method for modulating the activity of a polypeptide of claim 8 comprising contacting a polypeptide or a cell expressing a polypeptide of claim 8 with a compound which binds to the polypeptide in a sufficient concentration to modulate the activity of the polypeptide.

22. A method for identifying a compound which modulates the activity of a polypeptide of claim 8, comprising:

- a) contacting a polypeptide of claim 8 with a test compound; and

b) determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.